

## **ABSTRACT**

A method for improving the bioavailability of a bioactive substance includes subjecting the bioactive substance to laser radiation. The laser radiation modifies the bioactive substance to thereby modify reactions relating thereto in the body. The method enables reductions in inflammation associated with autoimmune diseases, modification of reaction by-products in the body, increased homogenization and flattening of molecular shape and improved methylation. The improved methylation can be utilized to reduce homocysteine blood levels, and to reduce anxiety, depression, paranoia, hostility, somatization (perception of bodily distress) and obsessive-compulsive symptoms. Enhanced nitric oxide generation from modified L-arginine can be used to reduce systolic and diastolic blood pressure, lower total and LDL cholesterol levels, and improve the ratio of total to HDL cholesterol. Increased depth of penetration of sparse constructive nodes of laser radiation may increase the range of photodynamic therapy applications and a wide range of in vitro and in vivo modifications of molecular shape and activity. Laser acoustic resonance can be utilized to increase the homogeneity of crystals, or favor the generation of novel or preferred crystalline forms.